

## ABSTRACT OF THE INVENTION

The invention considers a widely applicable method of constructing segmentation-based predictive models from data that permits constraints to be placed on the statistical estimation errors that can be tolerated with respect to various aspects of the models that are constructed. The present invention uses these statistical constraints in a closed-loop fashion to guide the construction of potential segments so as to produce segments that satisfy the statistical constraints whenever it is feasible to do so. The method is closed-loop in a sense that the statistical constraints are used in a manner that is analogous to an error signal in a feed-back control system, wherein the error signal is used to regulate the inputs to the process that is being controlled.